

REMARKS

Pursuant to the present amendment, claims 4, 7, 12, and 13 have been amended, and claims 22 and 23 have been added. Thus, claims 4-7, 9-14, and 22-24 are pending in the present application. No new matter has been introduced by way of the present amendment. Reconsideration of the present application is respectfully requested in view of the amendments and arguments set forth herein.

In the Office Action, claims 4-7 and 9-14 were rejected under 35 U.S.C. § 103 as allegedly being obvious over Moore (U.S. Patent No. 6,306,008) in view of Elledge (U.S. Patent No. 2004/0089070A1). Applicants respectfully traverse the Examiner's rejections.

Claim 4, as amended, includes the general feature of, among other things, estimating the conditions of a conditioning pad and a polishing pad based on a sensor signal from a conditioner drive assembly of a CMP system. Based on the estimated conditions remaining lifetimes for the conditioning pad and the polishing pad are predicted.

Claim 12, as amended, includes the general features of, among other things, estimating a condition of a polishing pad based a signal from a conditioner drive assembly of a CMP system and adjusting at least one process parameter of a process sequence including a CMP process in on the basis of the estimated polishing pad condition.

With respect to claim 4, neither Moore nor Elledge teach or suggest these features. Both Moore and Elledge are directed to the condition of the conditioning pad. Neither teaches or suggests predicting the remaining lifetime of a polishing pad based on the signal from the conditioner drive. Although Moore briefly mentions comparing two polishing pads (col. 7, lines 25-32), Moore fails to teach or suggest predicting a remaining lifetime of a polishing pad based

on the conditioner signal. For these reasons, claim 4 and all claims depending therefrom are allowable. Applicants respectfully request the rejection of these claims be withdrawn.

With respect to claim 12, neither Moore nor Elledge teaches or suggests controlling a parameter of the process sequence based on an estimated condition of the polishing pad. Moore only teaches control of the conditioning process based on the condition of the conditioning pad. Moore is completely silent regarding the control of the process sequence, much less controlling the sequence based on the polishing pad condition. For example, in claim 13 parameters of the polishing process may be controlled, and in claims 14 and 24 parameters of a deposition process upstream of the CMP tool may be controlled. For these reasons claim 12 and all claims depending therefrom are allowable. Applicants respectfully request the rejection of these claims be withdrawn.

For at least the aforementioned reasons, it is respectfully submitted that all pending claims are in condition for immediate allowance. The Examiner is invited to contact the undersigned attorney with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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